

## Permutations Day 2

1) Find the number of permutations in each word.

a) BOY

b) WATER

c) OLYMPICS

d) JETSKI

Remember that with Permutations, **ORDER MATTERS!!!** With that in mind, use what you know about permutations to help you solve the following problems.

2) Mr. Elertson sponsored a 5K run. Mrs. Trendel, Mrs. Bachofen, Mrs. Koenig, Mrs. Lemberger, Mrs. Zeka and Mr. Sievert all decided to run in it. In how many different orders could the teachers finish the race?

3) Hayden loves cereal! If he has 9 different boxes of cereal in his pantry, how many different ways could he arrange the boxes on the cereal shelf?

Solve each problem by using the Counting Principle OR Permutations. Show your work!

4) Mrs. Trendel likes to have classroom jobs. How many ways could a hall-monitor, a chalkboard washer, an attendance checker and an recycling manager be chosen from her class of 30 students?

5) Mrs. Koenig was planning a dinner party. For the main course, guests could choose chicken ala king or beef stew. The sides were salad, soup or baked beans. Guests could have soda, water or milk to drink. How many menu choices are available if guests chose one main course, one side and one drink?

6) How many ways can Mr. Sievert choose a starting line up (5 players) if there are 12 players altogether on the team?

7) How many different ways can Martha, Austin, Gian, Abby and Miro stand in a line?